

1) Updates

a. Presentations

1. AWWA Sustainable Water Conference March 25-28, Seattle. Session.
2. Water Reuse Research Conference May 7-8 Atlanta Preconference workshop May 6

b. Products. A transformative technology toolkit library. Q4 FY18. Cissy

c. Manuscripts

1. QMRA of building/district scenarios (accepted, Microbial Risk Analysis)
2. Constructed wetlands for greywater recycle and reuse. Review of literature assessing the ability of wetlands to meet physical, chemical and microbial reuse standards. Accepted, STOTEN
3. Effect of Nutrient Removal and Resource Recovery on Life Cycle Cost and Environmental Impacts of Small Scale Wastewater Treatment. Submitted to ES&T (Cissy)
4. Resource Use of an Urban Water System: An Emergy Accounting Approach. Detailed emergy analysis of the Cincinnati drinking water and wastewater systems (Companion to LCA analysis). Internal reviews complete, Water Research/ES&T (into QA by end of CY17) Sam
5. Cincinnati LCA paper. Internal reviews complete (looking to submit to Water Research/ES&T (in STICS) (Cissy)
6. Validation of predictive model of Norovirus occurrence (Mike working on draft, targeting EST submittal by end CY17)
7. Follow up paper focusing on cross connection (Mike working on initial draft, journal TBD, end of FY18)
8. Environmental Accounting for the Urban Water System: Past, present, future. Using a variety of metrics including population, monetary expenditures and emergy inputs, I reconstruct the historical development of urban water service sectors and show: (1) how at both the national and municipality level development follows a previously hypothesized hierarchical pattern and (2) system resource consumption over time increases as the inputs required for provision of additional services are greater than the reductions achieved through the incremental improvements in efficiency of existing services. I then contextualize near-term options intended to improve system sustainability in a terms of past development patterns. Environmental Research Letters (still in development) (Sam)
9. LCA and Cost Analysis of Upgrades to Bath, NY. EPA Report (approved and released) (Cissy)
10. Nutrient recovery from municipal wastewater for sustainable food production systems: An alternative to traditional fertilizers. (technical reviews in progress) (Ranjani)

11. Comparative Emergy Evaluation of Nutrient Removal and Nutrient Recovery Technologies and the Implications to Nutrient Management (FY 2018) (Ranjani)
  12. Emergy Expenditure Among Municipal Wastewater Treatment Systems Across US (2<sup>nd</sup> quarter 2018) (Ranjani)
  13. Modeling energy recovery at the Dayton OH waste reclamation plant using GPS-X: An approach towards self-sustainability or revenue generation via efficient/increased biogas production. (Vincent's involvement is questionable, may need to transition to Ranjani, but #10-12 are her top priorities)
- 2) Building Scale Scenarios for Non-Potable Reuse
- a. QMRA work. Final submittal of initial revised paper, finalizing LRT model validation paper, developing cross connection paper (see above)
  - b. Status of wastewater LCA work. Scenarios have been finalized; ERG sent out documents on disinfection dosing rates; any further questions?
  - c. Status of rainwater LCA. Jay to work with Santoosh to draft outline for discussion (perhaps visit to Athens in the coming weeks?)
  - d. LCA of atmospheric water generation. Information on WaterGen system shared with ERG; still working on installing electrical metering on system in Cincinnati. Need to define scenarios
- 3) Any other updates updates?